Amend claims 1, 2, 5-9, 11, and 16 to read:

1. (amended) A method for preventing or treating a disease for which the FXa inhibitor is indicated, comprising: administering an effective amount of a composition comprising a pharmaceutical carrier and at least one compound represented by the following formula (I') or a salt thereof:

$$R_2$$
 R_3
 R_6
 R_7
 R_1
 R_2
 R_3
 R_6
 R_7
 R_1
 R_2
 R_3
 R_4
 R_5
 R_8
 R_9
 R_9
 R_9

(wherein G_1 , G_2 , and G_3 are independently CH or N and G_4 is CH, provided that one or two of G_1 to G_3 is N;

X is Ch and Y is N;

 Z_1 is a group represented by the formula -S0₂- or -CH₂-;

 Z_2 is a single bond, a lower alkylene group, a lower alkenylene group or a lower alkynylene group;

Q is an optionally substituted aryl or an optionally substituted heteroaryl group;

R₁ is either any substituent selected from group A (a hydrogen atom, a halogen atom, a trifluoromethyl group, a trifluoromethoxy group, a carboxyl group, a carbamoyl group, an amino group, a cyano group, a nitro group, a lower alkanoyl group, a lower alkoxy group, a lower alkoxycarbonyl group, a mono- or di-substituted lower alkylamino group, a cyclic amino group, a lower

alkanoylamino group, a phenyl group, a phenoxy group, a benzyloxy group, a benzoyl group, a mercapto group, a lower alkylthio group, a lower alkylthiocarbonyl group, a hydroxyl group or a mono- or di.-substituted lower alkylaminocarbonyl group), or an oxygen atom that forms a N-oxide group with N in any one of G1 – G4, or a lower alkyl group or a lower alkenyl group that may be substituted with a desired number of substituents of group A or a lower alkoxy group or a lower alkoxy group which may be substituted with a desired number of substitutents of group A or a lower alkoxy group;

at.

each of R₂, R₃, R₄, R₅, R₆, R₇, R₈ and R₉ forms an oxo group when combined with the carbon atom on the ring to which they are bound, or they are each a hydrogen atom, a carboxyl group, a lower alkylcarbonyl group, a lower alkoxycarbonylalkylcarbonyl group, an optionally mono- or di-lower alkyl substituted carbamoyl group, a lower alkoxycarbamoyl group, a lower alkoxycarbamoyl group, a lower alkoxycarbonylalkylcarbamoyl group, a pyrrolidin-1-ylcarbonyl group, a morpholinocarbonyl group, a piperazin-1-ylcarbonyl group that may be substituted by a methyl group in 4-position, a piperidin-1-ylcarbonyl group that may be substituted by a methyl group or a hydroxyl group in 4-position, an N-phenylcarbamoyl group or a group represented by the formula -CONH(CH₂)_pS(O)_qR₁₀ or -CONH(CH₂) rNR₁₁R₁₂, or a lower alkyl group that may be substituted by R₁₅:

each of R_{10} , R_{11} and R_{12} independently represents a hydrogen atom, a lower alkyl group, a phenyl group or a lower alkylphenyl group;

R₁₅ is a carboxyl group, a lower alkoxycarbonyl group, a hydroxyl group, a lower alkoxy group, a lower alkanoyloxy group, an amino group, a mono- or di-substituted lower alkylamino group, a lower alkanoylamino group, a lower alkylsulfonylamino group, a cyclic amino group or an N-hydroxyimino group;

provided that R_6 , when combined with the carbon atom to which it is bound, may represent R_{6a} -C- R_{6b} , wherein either R_{6a} or R_{6b} is a hydrogen atom and the other is the same as defined above for R_6 or, alternatively, each of R_{6a} and R_{6b} independently represents a lower alkyl group;

also provided that if any one of the substituents R₂ - R₉ includes cyclic group, such cyclic group may be substituted by one or two lower alkyl groups;

m is an integer of 0 - 3 and n is 1 [are independently an integer of 0 - 3], p is an integer of 0 - 4, q is an integer of 0 - 2, and r is an integer of 1 - 4[;

with the proviso that when X and Y are both N, n is 2 or 3 and Z_1 is - CH_2 - those compounds of formula (I) in which R_6 and R_8 in pair or R_7 and R_9 in pair are both carbonyl groups are excluded)].

2. (amended) The method according to claim 1, wherein the optionally substituted aryl or heteroaryl group as Q of the formula (I') is an aryl or heteroaryl group that may be substituted by 1 - 4 groups in any combinations that are selected from among substituents of either group B (a halogen atom, a trifluoromethyl group, a trifluoromethoxy group, a trifluoromethanesulfonyl group, a carboxyl group, a carbamoyl group, an amino group, a cyano group, a nitro group, a lower alkanoyl group, a lower alkoxyl group, a lower

alkoxycarbonyl group, a mono- or di-substituted lower alkylamino group, a lower alkanoylamino group, a cyclic amino group, a mercapto group,, a lower alkylthio group, a lower alkylthiocarbonyl group, a lower alkylsulfonyl group, a lower alkylsulfinyl group, a hydroxyl group or a mono- or di-substituted lower alkylaminocarbonyl group, an amidino group which is optionally substituted with sulfamoyl or carbamoyl group, the formula -NHCR₁₃-NHR₁₄ (wherein R₁₃ is an optionally cyano-substituted imino group or a group -CHNO2; R14 is a hydrogen atom or a methyl group), a phenyl group, a phenoxy group, a heteroaryl group, a heteroaryloxy group, or a group represented by phenyl-S(0)t or heteroaryl-S(0)t (wherein t is an integer of 0 - 2), the heteroaryl group of group B is a 5- or 6-membered aromatic monocyclic group containing not more than four oxygen atoms, sulfur atoms or nitrogen atoms, provided that all aromatic rings of group B may be mono-, di-, or tri-substituted by any substituent of group C (a halogen atom, a trifluoromethyl group, a cyano group, a hydroxyl group, an amino group, a mono- or di-substituted lower alkylamino group; a cyclic amino group, a nitro group, a carboxyl group, a mono or di-substituted lower alkylaminocarbonyl group, a lower alkyl group, a lower alkoxy group or a lower alkoxycarbonyl group)) or a lower alkyl group that may be substituted by a desired number of substituents of group B.

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5. (amended) A compound represented by the following general formula (II') or a salt thereof:

(wherein G_1 , G_2 and G_3 are independently CH or N, provided that one or two of them is N;

one of R_{6a} and R_{6b} is a hydrogen atom and the other is

- 1) a group selected from among a carboxyl group, a lower alkylcarbonyl group, a lower alkoxycarbonyl group and a lower alkoxycarbonylalkylcarbonyl group;
- 2) a group selected from among an optionally mono- or di-lower alkyl substituted carbamoyl group, a lower alkoxycarbamoyl group, a lower alkoxycarbonylalkylcarbamoyl group, a pyrrolidin-1-ylcarbonyl group, a morpholinocarbonyl group, a piperidin-1-ylcarbonyl group which may be substituted by a methyl group or a hydroxyl group in 4-position, an Nphenylcarbamoyl group or a group selected from among the groups represented by the formulae $-\text{CONH}(\text{CH}_2)_P\text{S}(0)_q\text{R}_{10}$ and $-\text{CONH}(\text{CH}_2)_r\text{NR}_{11}\text{R}_{12}$ (wherein R₁₀, R₁₁ and R₁₂ are independently a hydrogen atom, a lower alkyl group, a phenyl group or a lower alkylphenyl group; p is an integer of 0 4, q is an integer of U 2, and r is an integer of 1 4), or
- 3) a lower alkyl group optionally substituted by R_{15} ; R_{15} is a carboxyl group, a lower alkoxycarbonyl group, a hydroxyl group, a lower alkoxy group, a lower

alkanoyloxy group, an amino group, a mono- or di-substituted lower alkylamino group, a lower alkanoylamino group, a lower alkylsulfonylamino group, a cyclic amino group or an N-hydroxyimino group;

or R_{6a} and R_{6b} are both a lower alkyl group;

Q' is an aryl group optionally substituted by a group having any 1 - 4 halogen atoms or an aryl lower alkenylene group which may be similarly substituted).

6. (amended) A compound of the formula (II"):

(wherein R_{6a} and Q' have the same definitions as given for the substituent R_{6a} but not a hydrogen and Q' in the formula (II')) or a salt thereof.

7. (amended) The compound or salt thereof according to claim 6, wherein R_{6a} is a carboxyl group, a lower alkoxycarbonyl group, or a lower alkyl group that may be substituted by R_{15} ; and R_{15} is a carboxyl group, a lower alkoxycarbonyl group, a hydroxyl group, a lower alkoxy group, or a lower alkanoyloxy group.

8. (amended) A compound selected from the following list of compounds. or a salt thereof: 1-[(E)-4-chlorostyrylsulfonyl]-4-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazine; 4-(naphthalene-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazine; 4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4ylmethyl|piperazine; 4-(6-bromonaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4ylmethyl|piperazine; 4-(benzo[b]thiophen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-ylmethyl|piperazine; 4-(5-fluorobenzo[b]thiophen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4ylmethyl]piperazine; 4-(6-chlorobenzo[b]thiophen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4ylmethyl]piperazine; 4-(4-methoxybenzo[b]thiophen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4ylmethyllpiperazine; 4-(6-methoxybenzo[b]thiophen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4ylmethyl]piperazine; 4-[3-(ethoxycarbonylmethyl)benzo[b]thiophen-2-ylsulfonyl]-1-[1-(4pyridyl)piperidin-4-ylmethyl]piperazine; 1-[1-(4-pyridyl)piperidin-4-ylmethyl]-4-[3-(trifluoromethyl)benzo[b]thiophen-2ylsulfonyl|piperazine;

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4-(3-nitrobenzo[b]thiophen-2-ylsulforiyl)-1-[1-(4-pyridyl)piperidin-4-
      ylmethyl|piperazine;
      4-(benzo[b]furan-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazine;
    4-(5-chlorobenzo[b]furan-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-
    ylmethyl|piperazine;
    4-(2-methylbenzothiazol-6-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-
    ylmethyllpiperazine;
    4-(4-phenylbenzenesulfonyl)-1-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazine;
    4-(5-carboxy-2-chlorobenzenesulfonyl)-1-[1-(4-pyridyl)piperidin-4-
   ylmethyl]piperazine;
   4-[5-(carboxymethyl)-2-chlorobenzenesulfonyl]-1-[1-(4-pyridyl)piperidin-4-
   ylmethyl|piperazine;
   4-(5-acetamidonaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-
 ylmethyl|piperazine;
 4-(5-aminonaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-
 ylmethyl]piperazine;
 4-[(E)-4-chlorostyrylsulfonyl]-1-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperidin-4-ylmethyl]piperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylypiperazin-2-pyridylyp
 one;
4-(5-aminonaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-
ylmethyl|piperazine;
 4-[(E)-4-chlorostyrylsulfonyl]-1-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperazin-2-piperaz
one;
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4-(6-bromonaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-
ylmethyl|piperazin-2-one;
4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-
ylmethyl|piperazin-2-one;
4-(naphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-
one;
4-(6-methylnaphthalen-2-ylsulfonyl)-1-[1-(4-pyriyl)piperidin-4-
ylmethyl|piperazin-2-one;
4-(6-cyanonaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-
ylmethyl]piperazin-2-one;
4-(6-hydroxynaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-
ylmethyl|piperazin-2-one;
4-(1-fluoronaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-
ylmethyl|piperazin-2-one;
4-(6-chloronaphthalen-2-ylsulfonyl)-2-ethoxycarbonyl-l-[1-(4pyridyl)piperidin-
4-ylmethyllpiperazine;
4-(6-chloronaphthalen-2-ylsulfonyl)-2-hydroxymethyl-l-[1-(4pyridyl)piperidin-4-
ylmethyl|piperazine;
2-carboxy-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4pyridyl)piperidin-4-
ylmethyl]piperazine;
4-(6-chloronaphthalen-2-ylsulfonyl)-2-[(2ethoxycarbonyl)acetyl]-1-[1-(4-
pyridyl)piperidin-4ylmethyl|piperazine;
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2-aminocarbonyl-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4pyridyl)piperidin-

- 4-ylmethyl]piperazine;
- 4-(6-chloronaphthalen-2-ylsulfonyl)-2-[N(ethylthioethyl)aminocarbonyl]-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-2-[N(ethylthioethyl)aminocarbonyl]-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-2-[N(ethylthioethyl)aminocarbonyl]-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-2-[N(ethylthioethyl)aminocarbonyl]-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-2-[N(ethylthioethyl)aminocarbonyl]-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-(1-chloronaphthalen-2-ylsulfonyl)-1-[1-(1-chloronaphthalen-2-
- 4-pyridyl)piperidin-4ylmethyl]piperazine;
- 2-acetyl-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4pyridyl)piperidin-4-ylmethyl]piperazine; and
- 4-(6-chloronaphthalen-2-ylsulfonyl)-2-(N,Ndimethylaminocarbonyl)-1-[1-(4-pyridyl)piperidin-4ylmethyl]piperazine.
- 9. (amended) A compound selected from the following list of compounds, or a salt thereof:
- 4-(6-chloronaphthalen-2-ylsulfonyl)-6-ethoxycarbonyl-l-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- 6-carboxy-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- 4-(6-chloronaphthalen-2-ylsulfonyl)-6-hydroxymethyl-l-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- 4-(6-chloronaphthalen-2-ylsulfonyl)-6-methoxymethyl-l-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- 6-acetoxymethyl-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- 4-[(E)-4-chlorostyrylsulfonyl]-6-ethoxycarbonyl-l-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

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6-carboxy-4-[(E)-4-chlorostyrylsulfonyl]-1-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
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6-aminocarbonyl-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

6-aldoximyl-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

4-(6-chloronaphthalen-2-ylsulfonyl)-6-morpholinocarbonyl-l-[1(4-pyridyl) piperidin-4-ylmethyl]piperazin-2-one;

4-(6-chloronaphthalen-2-ylsulfonyl)-6-dimethylaminocarbonyl-l[1-(4-pyridyl) piperidin-4-ylmethyl]piperazin-2-one;

4-(6-chloronaphthalen-2-ylsulfonyl)-6-methoxyaminocarbonyl-l[1-(4-pyridyl) piperidin-4-ylmethyl]piperazin-2-one;

4-(6-chloronaphthalen-2-ylsulfonyl)-6-(4hydroxypiperidinecarbonyl)-1-[1-(4-pyridyl)piperidin-4ylmethyl]piperazin-2-one;

6-aminomethyl-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

4-(6-chloronaphthalen-2-ylsulfonyl)-6-morpholinomethyl-l-[1(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

4-(6-chloronaphthalen-2-ylsulfonyl)-6-dimethylaminomethyl-l[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

6-acetamidomethyl-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

- 4-(6-chloronaphthalen-2-ylsulfonyl)-6methanesulfonylamidomethyl-l-[1-(4-pyridyl)piperidin-4ylmethyl]piperazin-2-one;
- 4-(6-chloronaphthalen-2-ylsulfonyl)-6-(4hydroxypiperidinemethyl)-1-[1-(4-pyridyl)piperidin-4ylmethyl]piperazin-2-one;
- 4-(6-chloronaphthalen-2-ylsulfonyl)-6-dimethyl-l-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- 4-(2-naphthylsulfonyl)-6-hydroxymethyl-l-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- 6-acetoxymethyl-4-(2-naphthylsulfonyl)-1-[1-(4pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- (R)-4-(6-chloronaphthalen-2-ylsulfonyl)-6-ethoxycarbonyl-l-[1(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- (S)-4-(6-chloronaphthalen-2-ylsulfonyl)-6-ethoxycarbonyl-l-[1(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- (R)-4-(6-chloronaphthalen-2-ylsulfonyl)-6-methoxymethyl-l-[1(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- (S)-4-(6-chloronaphthalen-2-ylsulfonyl)-6-methoxymethyl-l-[1(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- (R)-6-carboxy-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;
- 4-(6-chloronaphthalen-2-ylsulfonyl)-6-n-propoxycarbonyl-l-[1(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

(R)-4-(6-chloronaphthalen-2-ylsulfonyl)-6-n-propoxycarbonyl-l-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

4-(6-chloronaphthalen-2-ylsulfonyl)-6-isopropoxycarbonyl-l-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

(R)-4-(6-chloronaphthalen-2-ylsulfonyl)-6-isopropoxycarbonyl-1-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

6-t-butoxycarbonyl-4-(6-chloronaphthalen-2-ylsulfonyl)-1-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one;

4-(6-chloronaphthalen-2-ylsulfonyl)-6,6-dimethyl-l-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one; and

(R)-4-[(E)-4-chlorostyrylsulfonyl]-6-methoxymethyl-l-[1-(4-pyridyl)piperidin-4-ylmethyl]piperazin-2-one.

- 11. (amended) A pharmaceutical composition containing at least one compound or salt thereof according to any one of claims 5-9, 17, or 18 as an active ingredient.
- 16. (amended) A compound of the formula (VI) optionally protected with a suitable protective group or a salt thereof:

$$R_2$$
 R_3
 R_6
 R_7
 G_1
 G_4
 R_4
 R_5
 R_8
 R_9
 R_9
 R_9

(wherein G_1 - G_4 , R_1 - R_9 , m and n have the same meanings as respectively defined for the formula (I) in claim 1).

Add new claims 17 and 18.

--17. A compound represented by the following formula (I") or a salt thereof:

$$R_{2} = G_{3}$$
 G_{1}
 $G_{2} = G_{3}$
 G_{1}
 $G_{2} = G_{4}$
 G_{4}
 G_{4}
 G_{4}
 G_{5}
 G_{1}
 G_{6}
 G_{7}
 G_{1}
 G_{1}
 G_{2}
 G_{1}
 G_{2}
 G_{3}
 G_{1}
 G_{4}
 G_{4}
 G_{5}
 G_{8}
 G_{8}
 G_{9}
 G_{1}
 G_{1}
 G_{1}
 G_{2}
 G_{3}
 G_{1}
 G_{4}
 G_{5}
 G_{7}
 G_{1}
 G_{1}
 G_{2}
 G_{3}
 G_{1}
 G_{2}
 G_{3}
 G_{1}
 G_{2}
 G_{3}
 G_{4}
 G_{5}
 G_{7}
 G_{7}
 G_{8}
 G_{9}
 G_{1}
 G_{1}
 G_{1}
 G_{2}
 G_{3}
 G_{1}
 G_{4}
 G_{5}
 G_{7}
 G_{7}
 G_{8}
 G_{9}
 G_{1}
 G_{1}
 G_{1}
 G_{2}
 G_{3}
 G_{1}
 G_{4}
 G_{1}
 G_{2}
 G_{3}
 G_{4}
 G_{4}
 G_{5}
 G_{5}
 G_{7}
 G_{7

(wherein G_1 , G_2 , and G_3 are independently CH or N and G_4 is CH, provided that one or two of G_1 to G_3 is N;

X is CH and Y is N;

 Z_1 is a group represented by the formula -S0₂- or -CH₂-;

Z₂ is a single bond, a lower alkylene group, a lower alkenylene group or a lower alkynylene group;

Q is an optionally substituted aryl or an optionally substituted heteroaryl group;

R₁ is either any substituent selected from group A (a hydrogen atom, a halogen atom, a trifluoromethyl group, a trifluoromethoxy group, a carboxyl group, a carbamoyl group, an amino group, a cyano group, a nitro group, a lower alkanoyl group, a lower alkoxy group, a lower alkoxycarbonyl group, a

mono- or di-substituted lower alkylamino group, a cyclic amino group, a lower alkanoylamino group, a phenyl group, a phenoxy group, a benzyloxy group, a benzoyl group, a mercapto group, a lower alkylthio group, a lower alkylthiocarbonyl group, a hydroxyl group or a mono- or di.-substituted lower alkylaminocarbonyl group), or an oxygen atom that forms a N-oxide group with N in any one of G1 – G4, or a lower alkyl group, a lower alkoxy group, or a lower alkenyl group that may be substituted with a desired number of substituents of group A;

each of R₂, R₃, R₄, R₅, R₆, R₇, R₈ and R₉ forms an oxo group when combined with the carbon atom on the ring to which they are bound, or they are each a hydrogen atom, a carboxyl group, a lower alkylcarbonyl group, a lower alkoxycarbonylalkylcarbonyl group, an optionally mono- or di-lower alkyl substituted carbamoyl group, a lower alkoxycarbamoyl group, a lower alkoxycarbamoyl group, a lower alkoxycarbamoyl group, a pyrrolidin-1-ylcarbonyl group, a morpholinocarbonyl group, a piperazin-1-ylcarbonyl group that may be substituted by a methyl group in 4-position, a piperidin-1-ylcarbonyl group that may be substituted by a methyl group or a hydroxyl group in 4-position, an N-phenylcarbamoyl group or a group represented by the formula -CONH(CH₂)_pS(O)_qR₁₀ or -CONH(CH₂) rNR₁₁R₁₂, or a lower alkyl group that may be substituted by R₁₅;

each of R_{10} , R_{11} and R_{12} independently represents a hydrogen atom, a lower alkyl group, a phenyl group or a lower alkylphenyl group;

R₁₅ is a carboxyl group, a lower alkoxycarbonyl group, a hydroxyl group, a lower alkoxy group, a lower alkanoyloxy group, an amino group, a mono- or di-substituted lower alkylamino group, a lower alkanoylamino group, a lower alkylsulfonylamino group, a cyclic amino group or an N-hydroxyimino group;

provided that R_6 , when combined with the carbon atom to which it is bound, may represent R_{6a} -C- R_{6b} , wherein either R_{6a} or R_{6b} is a hydrogen atom and the other is the same as defined above for R_6 or, alternatively, each of R_{6a} and R_{6b} independently represents a lower alkyl group;

also provided that if any one of the substituents R_2 - R_9 includes cyclic group, such cyclic group may be substituted by one or two lower alkyl groups; m is an integer of 0 - 3 and n is 1, p is an integer of 0 - 4, q is an integer of 0 - 2, and r is an integer of 1 - 4;

with the proviso that when these compounds of formula (I") in which all of R2, R3, R, R5, R6, R7, R8, and R9 are independently selected from hydrogens or oxo groups and Q is selected from the group consisting of five- or six-membered heterocycle, phenyl, phenyl alkenyl, and naphthyl, any of which is optionally substituted, are excluded.

18. The compound or salt thereof according to claim 17, wherein the optionally substituted aryl or heteroaryl group as Q of the formula (I") is an aryl or heteroaryl group that may be substituted by 1 - 4 groups in any combinations that are selected from among substituents of either group B [a halogen atom, a trifluoromethyl group, a trifluoromethoxy group, a

trifluoromethanesulfonyl group, a carboxyl group, a carbamoyl group, an amino group, a cyano group, a nitro group, a lower alkanoyl group, a lower alkoxyl group, a lower alkoxycarbonyl group, a mono- or di-substituted lower alkylamino group, a lower alkanoylamino group, a cyclic amino group, a mercapto group,, a lower alkylthio group, a lower alkylthiocarbonyl group, a lower alkylsulfonyl group, a lower alkylsulfinyl group, a hydroxyl group or a mono- or di-substituted lower alkylaminocarbonyl group, an amidino group which is optionally substituted with sulfamoyl or carbamoyl group, the formula -NHCR₁₃-NHR₁₄ (wherein R₁₃ is an optionally cyano-substituted imino group or a group -CHNO2; R14 is a hydrogen atom or a methyl group), a phenyl group, a phenoxy group, a heteroaryl group, a heteroaryloxy group, or a group represented by phenyl-S(0)t or heteroaryl-S(0)t (wherein t is an integer of 0 - 2), the heteroaryl group of group B is a 5- or 6-membered aromatic monocyclic group containing not more than four oxygen atoms, sulfur atoms or nitrogen atoms, provided that all aromatic rings of group B may be mono-, di-, or trisubstituted by any substituent of group C (a halogen atom, a trifluoromethyl group, a cyano group, a hydroxyl group, an amino group, a mono- or disubstituted lower alkylamino group, a cyclic amino group, a nitro group, a carboxyl group, a mono or di-substituted lower alkylaminocarbonyl group, a lower alkyl group, a lower alkoxy group or a lower alkoxycarbonyl group)] or a lower alkyl group that may be substituted by a desired number of substituents of group B.--.